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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/747,906 | 12/29/2003 | Jae Hoon Cheong | 11037-189-999 | 6808 |

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| EXAMINER | |
|---|---|
| NGUYEN, TU MINH | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3748 | |

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/747,906 | CHEONG, JAE HOON | |
| | Examiner | Art Unit | |
| | Tu M. Nguyen | 3748 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *122903, 030404*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because on line 2, "which comprises" should read --with--. Correction is required. See MPEP § 608.01(b).

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Wagner et al. (U.S. Patent 4,889,540).

Re claims 1 and 7, as shown in Figures 2, 15, and 16, Wagner et al. disclose a diesel particulate matter reduction system and a diesel particulate matter reduction method using a diesel particulate filter (DPF), the method comprising:

- capturing diesel particulate matter of exhaust gas using the DPF (90); and

- regenerating the DPF by removing the captured particulate matter,

wherein the regenerating of the DPF comprises:

- heating the DPF with a heater (92) using electric power that is supplied from an external electric power supply device (line 15 of column 15) such that the captured particulate matter can be burned; and

- sending air (308, 310, 312) to the DPF.

Re claim 5, in the system of Wagner et al., the heater (92) is disposed upstream of the DPF (90) (see Figure 2).

Re claim 6, the system of Wagner et al. further comprises a temperature sensor (96) detecting a temperature of the heater (92) and generating a corresponding signal, wherein the control unit controls the electric power to be supplied to the heater until the temperature of the heater reaches a predetermined temperature based on the signal of the temperature sensor (step 346 with YES answer and step 360).

4. Claims 1, 5, and 7 are further rejected under 35 U.S.C. 102(b) as being anticipated by Rao et al. (U.S. Patent 4,562,695).

Re claims 1 and 7, as shown in Figures 1-2, Rao et al. disclose a diesel particulate matter reduction system and a diesel particulate matter reduction method using a diesel particulate filter (DPF), the method comprising:

- capturing diesel particulate matter of exhaust gas using the DPF (9); and

- regenerating the DPF by removing the captured particulate matter,

wherein the regenerating of the DPF comprises:

- heating the DPF with a heater (25) using electric power that is supplied from an external electric power supply device (24) such that the captured particulate matter can be burned; and

- sending air (20, 47) to the DPF.

Re claim 5, in the system of Rao et al., the heater (25) is disposed upstream of the DPF (9) (see Figure 2).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2-4 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. as applied to claims 1 and 7, respectively, above, in view of Friebe et al. (U.S. Patent Application 2003/0010399).

Re claims 2 and 8, the system and method of Wagner et al. disclose the invention as cited above, however, fail to disclose that the electric power supply device includes a fuel supply nozzle having an electric power source, and wherein the control unit is electrically connected to the electric power source of the fuel supply nozzle when the fuel supply nozzle is inserted into a fuel supply hole of a vehicle.

As shown in Figures 1-2, Friebe et al. teach a system for supplying power to a consumer, comprising a fuel supply nozzle (9) having electrical plug to supply electricity from the vehicle (1) to a consumer (6). In another embodiment shown in Figure 3, the consumer (6) is a vehicle (1') that needs electricity from the vehicle (1). Thus, it is further obvious to configure the vehicle (1) so that the vehicle (1) can receive electricity from an external source through the electrical plug of the fuel supply nozzle. Hence, in Wagner et al., the regeneration station at

which the vehicle (302) stops to regenerate the DPF can be configured as a refueling station; and it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the fuel supply nozzle taught by Friebe et al. in the system and method of Wagner et al., since the use thereof would have provided an effective means to provide the needed electrical power to regenerate the DPF.

Re claim 3, in the modified system of Wagner et al., the control unit includes an electric power supply plug (see Friebe et al.) that is disposed near the fuel supply hole, and wherein the fuel supply nozzle is provided with an electric power supply socket into which the electric power supply plug can be inserted.

Re claim 4, in the modified system of Wagner et al., the electric power supply plug and the electric power supply socket (see Figure 2 in Friebe et al.) are respectively disposed such that the electric power supply plug can be inserted into the electric power supply socket when the fuel supply nozzle is inserted into the fuel supply hole.

Re claims 9-10, in the modified method of Wagner et al., the heating of the DPF is performed by operating a heater (92) using the electric power of the fuel supply nozzle (see above), the heater being disposed (92) upstream of the DPF (90).

Re claims 11-12, in the modified method of Wagner et al., in the heating of the DPF, the heater is controlled to operate until a temperature thereof reaches a predetermined temperature and not to operate after the temperature thereof reaches the predetermined temperature (see step 346 with YES answer and step 360).

Re claim 13, in the modified method of Wagner et al., the sending step is performed by operating an air blower (308) using the electric power of the fuel supply nozzle.

***Prior Art***

7. The IDS (PTO-1449) filed on December 29, 2003 and March 4, 2004 have been considered. An initialized copy of each is attached hereto.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents: Arai (U.S. Patent 5,090,200), Hoppenstedt et al. (U.S. Patent 5,386,400), Kojima et al. (U.S. Patent 5,458,673), Tokuda et al. (U.S. Patent 5,489,319), and Sherwood (U.S. Patent 6.471,918) further disclose a state of the art.

***Communication***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (703) 308-2833.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (703) 308-2623. The fax phone number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1148.

Tu M. Nguyen

TMN

July 12, 2004

Tu M. Nguyen
Patent Examiner
Art Unit 3748